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July 8, 2016

VIA ELECTRONIC DELIVERY

Marlene H. Dortch, Secretary
Federal Communications Commission
445 12th Street S.W.
Washington, DC 20554

Re: Notice of Ex Parte Presentation
GN Docket No. 14-177; IB Docket No. 15-256; RM-11664; WT Docket No. 10-112; IB Docket No. 97-95

Dear Ms. Dortch:

On Thursday, July 7, 2016, Nextlink Wireless, LLC ("Nextlink"), an operating affiliate of XO Communications, LLC ("XO"), met with Julius Knapp, Chief of the Office of Engineering and Technology ("OET") of the Federal Communications Commission ("FCC" or "Commission"), Michael Ha of OET and Brian Regan of the Wireless Telecommunications Bureau ("WTB"), to discuss the Commission's *Notice of Proposed Rulemaking* in the above-referenced proceedings.[1] Attending the meeting on behalf of Nextlink/XO were: Patrick Thompson, Director, Legislative Affairs; Eric Miller, Senior Wireless Strategist (by telephone); Michele Farquhar and Tom Peters of Hogan Lovells US LLP, counsel and advisor to Nextlink/XO, respectively; and Mike Lasky of Widelity, Inc., consultant to Nextlink/XO. On the same day, Michele Farquhar and Tom Peters had brief meetings with Edward "Smitty" Smith, Legal Advisor to Chairman Tom Wheeler, and Brendan Carr, Legal Advisor to Commissioner Ajit Pai, to discuss discrete issues with the *NPRM*. The substance of these meetings is summarized at the end of this *ex parte* notice.

Nextlink began the OET and WTB meeting by noting its enthusiasm for offering mobile services in the 28 GHz band, and its desire to support the development and deployment of 5G networks and services. Nextlink has been a leader in the Local Multipoint Distribution Service ("LMDS") band, including making substantial investments in the band, securing equipment for use in the band, and joining with other LMDS licensees to solve common problems throughout the years. However, Nextlink expressed concern that, under some of the FCC's proposed rules for the 28 GHz band, the costs to deploy 5G will far outweigh the benefits.

In sum, the FCC is proposing to make many dramatic changes in the LMDS band – much smaller county-sized licensing, splitting the band (and existing deployment) into two pieces, more stringent buildout requirements, and allowing only one of the four separate LMDS bands to be eligible for mobile uses – all of which will result in stranding existing deployment and investment. If these sweeping changes are adopted, Nextlink urged the FCC to afford incumbent licensees, who

[1] *See Use of Spectrum Bands Above 24 GHz for Mobile Radio Services, et al.*, Notice of Proposed Rulemaking, 30 FCC Rcd 11878 (2015) ("*NPRM*").

bought this spectrum at auction and made substantial investments to meet the current buildout requirements, adequate time to meet the new 5G performance requirements and deploy in the band.

Challenges of County-Based Licenses

Nextlink briefly noted the financial, administrative and technical challenges associated with issuing new Upper Microwave Flexible Use ("UMFU") licenses for the 28 GHz A1 band in county-based geographic license sizes.[2] A large majority of commenters opposed the Commission's novel, never-before-tested county-based licensing scheme for 28 GHz UMFU licenses.[3] Indeed, even rural and regional carriers and their trade association "object[ ] to the Commission's proposal to change incumbent LMDS license sizes from BTA[s]," noting that the Commission's proposed change would harm incumbent licensees, "especially small and rural carrier licensees."[4] In some circumstances, licensees will face significant challenges to deploying substantial service, irrespective of costs, and there may be inadequate population to support ongoing operations. As the Commission found in the *Incentive Auction Report and Order*, for example, "more service areas could complicate potential bidders' efforts to plan for, and participate in, the auction of related licenses, potentially affecting the success of the auction. More service areas could also complicate subsequent service deployment."[5] Due to these issues, rural county UMFU licenses held in FCC inventory are less likely to sell in an auction, diminishing the potential availability of 5G service in these areas and the overall value of the

[2] *See Ex Parte* Letter from Michele C. Farquhar, Counsel to Nextlink Wireless, LLC and XO Communications, LLC to Marlene H. Dortch, Secretary, FCC, GN Docket No. 14-177, *et al*. at 2-4 (filed June 30, 2016) ("*Nextlink June 30 Ex Parte*").

[3] *See, e.g.*, Reply Comments of Intel Corp., GN Docket No. 14-177, *et al*. at 2 (filed Feb. 26, 2016) ("While many of the Commission's primary proposals were supported by a majority of commenters, a small minority of those proposals received substantial opposition. These include . . . the proposal for county-based license areas . . . ."); Reply Comments of Nokia, GN Docket No. 14-177, *et al*. at 3 (filed Feb. 26, 2016) ("Commenters widely agree that the geographic licensing area should be larger than county-level."); Reply Comments of Samsung Electronics America, Inc. and Samsung Research America, GN Docket No. 14-177, *et al*. at 10 (filed Feb. 26, 2016) ("The majority of commenters opposed the Commission's proposed county-based licensing scheme for the 28 GHz, 37 GHz, and 39 GHz bands."); Reply Comments of Straight Path Communications Inc., GN Docket No. 14-177, *et al*. at 6 (filed Feb. 26, 2016) ("Commenters in this proceeding almost unanimously oppose the Commission's proposed county-based licensing scheme for 28 GHz and 39 GHz bands."); Reply Comments of T-Mobile USA, Inc., GN Docket No. 14-177, *et al*. at 15 (filed Feb. 26, 2016) ("T-Mobile agrees with Verizon that county-level licenses could prove administratively complex and burdensome.").

[4] *See Ex Parte* Letter from Rebecca Murphy Thompson, Executive Vice President and General Counsel, Competitive Carriers Association to Marlene H. Dortch, Secretary, FCC, GN Docket No. 14-177, *et al*. at 3 (filed June 29, 2016); *see also Ex Parte* Letter from David LaFuria, Counsel to Sunshine LMDS Network, Inc., *et al*. to Marlene H. Dortch, Secretary, FCC, GN Docket No. 14-177 *et al*. at 1 (filed July 5, 2016); *Ex Parte* Letter from D. Cary Mitchell & John A. Prendergast, Counsel to the Blooston Rural Carriers to Marlene H. Dortch, Secretary, FCC, GN Docket No. 14-177 *et al*. (filed June 17, 2016).

[5] *See Expanding the Economic and Innovation Opportunities of Spectrum Through Incentive Auctions*, Report and Order, 29 FCC Rcd 6567, 6603-04 ¶ 80 (2015).

28 GHz band. Nextlink therefore urged the FCC to maintain existing Basic Trading Areas as the geographic license size for the 28 GHz A1 band.

Benefits of Partitioned PEA Licenses

If, however, the Commission does change the geographic license area for 28 GHz A1 band UMFU licenses, Nextlink urged the FCC to issue these licenses based on Partial Economic Areas ("PEAs") and partitioned PEAs.[6] Nextlink explained its PEA conversion plan using the attached slide presentation. Specifically, overlaying a map of PEAs on top of BTAs creates 993 discrete areas.[7] Taking into account current licensees and FCC inventory, the 993 areas can be reduced to 651 discrete areas, or partitioned PEAs.[8] Based on current licensing, 225 of the 412 total PEAs remain "whole" PEAs.[9] Moreover, the Commission and incumbent licensees have the opportunity to complete 118 more PEAs at auction where the FCC is the only other spectrum license holder in the PEA.[10]

Avoiding "Orphaned" LMDS Spectrum Bands

Nextlink further urged the Commission to include the A2 and A3 bands and the B block of the 28 GHz band in a flexible use plan for 5G.[11] Importantly, the record shows that 5G can be deployed over bandwidths smaller than the 500 megahertz threshold the FCC has proposed for identifying new millimeter-wave bands for flexible use.[12] As demonstrated in the technical study attached to Nextlink/XO's comments, 5G data rates can achieve greater than 3 Gbps throughput using only 200 megahertz of spectrum.[13] Nextlink noted that in many markets, making up approximately 28.5 percent of the total U.S. population, Nextlink is the licensee for both the A3 band and B block spectrum and could aggregate 300 megahertz of spectrum at 31.0-31.3 GHz.[14] If the United States is to truly lead in 5G, **it cannot afford to orphan the 450 megahertz of spectrum available in the A2, A3 and B bands – or a full one-third of the 28 GHz band.**

The Commission should, at an absolute minimum, better inform the record on the suitability of the A2 and A3 bands and B block for 5G. No one has submitted a valid reason into the record for not including these bands in the FCC's Further Notice of Proposed Rulemaking. If the A2 and A3

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[6] *See Nextlink June 30 Ex Parte* at 5-6.

[7] *See* attach. at 2.

[8] *See id.* at 3-4.

[9] *See id.* at 6.

[10] *See id.* at 7.

[11] *See* Comments of XO Communications, LLC, GN Docket No. 14-177, *et al*. at 11-16 (filed Jan. 28, 2016); Reply Comments of XO Communications, LLC, GN Docket No. 14-177, *et al*. at 4-6 (filed Feb. 26, 2016).

[12] *See, e.g.*, Comments of Ericsson Inc., GN Docket No. 14-177, *et al*. at 37 (filed Jan. 15, 2015).

[13] *See* Reed Engineering, *Maximizing the Utility of the Upper Microwave Flexible Use Service Bands Via Licensee Flexibility and Sound Spectrum Usage Policies* 7 (Jan. 28, 2016), *attached to* Comments of XO Communications, LLC, GN Docket No. 14-177, *et al*. (filed Jan. 28, 2016).

[14] *See Nextlink June 30 Ex Parte* at 7.

bands and B block are ultimately deemed suitable for 5G service, the Commission will have identified 450 megahertz of additional spectrum for next generation services. But the Commission needs to act sooner rather than later to allocate this spectrum for mobile use so that its decision can coincide with 3GPP work on 5G standards. Otherwise, FCC inaction will increase the costs for licensees to obtain equipment that can operate using the A2 and A3 bands and the B block.[15] Similar to a "dig once" policy, the FCC should promote a "deploy once" policy for equipment that will ultimately use the 28 GHz band for 5G services.

Alternatively, orphaning these bands will create immediate and substantial operational and technical challenges for incumbent licensees. Nextlink's current LMDS point-to-multipoint installations conform to the European Telecommunications Standards Institute standard frequency division duplexing ("FDD") band plan where the A1 and the A2 band are used as the uplink and downlink, respectively, with 1,008 megahertz of duplex spacing.[16] Point-to-point vendors use a 450-megahertz FDD spacing in the A1 band.[17] Current LMDS use cases are expected to play a major role in future 5G deployments, and breaking up the A1 band into separate licenses or separating the A1 and A2 bands will eliminate existing deployment scenarios and stifle new deployments. For example, new licensees that win only one of the two new A1 band licenses are unlikely to be able to deploy 5G service without controlling both halves of the split band.[18] If the FCC separates the A1 band from the A2 and/or A3 bands, then new licensees using point-to-multipoint equipment will likely need to deploy co-located multipoint builds only in the A1 band. Multipoint downlink operations in the A1 band would likely cause interference where new licensees' A1 downlinks are co-channel with legacy A1 uplinks, leading to an inefficient use of spectrum and the need to create a new generation of point-to-multipoint equipment. Accordingly, splitting the A1 band into multiple parts would strand incumbent licensees' current deployments and may require completely new deployment in (at least) one half of the band. Licensees would, at a minimum, potentially need to cross two call signs with a single installation.

During their meeting with Mr. Smith, Nextlink representatives Michele Farquhar and Tom Peters discussed the performance requirements the Commission plans to adopt for UMFU licenses, the potential bifurcation of the A1 band, and the potential "orphaning" of the A2, A3 and B bands. Nextlink asked about the timing of a decision on the geographic license size for 28 GHz A1 band UMFU licenses and reiterated the difficulties it would experience from the imposition of population-based performance requirements for UMFU licenses, particularly due to the different performance requirements that will result from adopting county-based license areas and orphaning the A2, A3 and B bands.[19] Nextlink also explained its PEA conversion plan using the attached slide presentation. Nextlink further noted that bifurcating the A1 band would double the number of licenses the FCC and licensees will need to administer, and inquired as to whether incumbent licensees' existing investments will be protected. Nextlink also inquired as to whether incumbents would continue to be able to deploy across both blocks in the A1 band.

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[15] *See id.*

[16] *See Nextlink June 30 Ex Parte* at 6; *see also NPRM*, 30 FCC Rcd at 11901 ¶ 67; 47 C.F.R. §101.1001(b)(2).

[17] *See Nextlink June 30 Ex Parte* attach. at 8-9.

[18] *See id.*, attach. at 9.

[19] *See id.* at 4-5.

Finally, Nextlink representatives Michele Farquhar and Tom Peters very briefly met with Brendan Carr and provided him with a copy of the attached PEA conversion plan proposal.

Pursuant to Section 1.1206(b) of the Commission's rules, I am filing this letter electronically in the above-referenced docket. Please contact me directly with any questions.

Respectfully submitted,

Michele C. Farquhar
Partner

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Enclosure
cc (via email):

Julius Knapp
Michael Ha
Brian Regan
Edward "Smitty" Smith
Brendan Carr

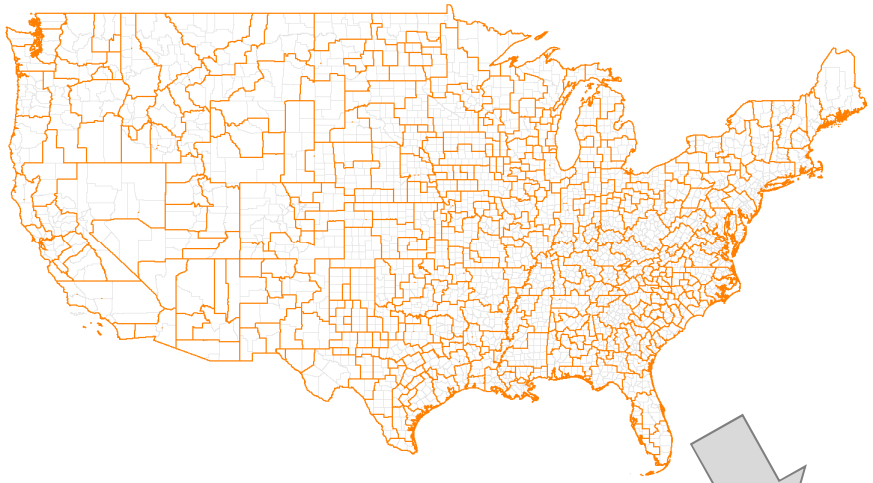
Spectrum Frontiers:
Partitioned PEAs Maps

July 6, 2016

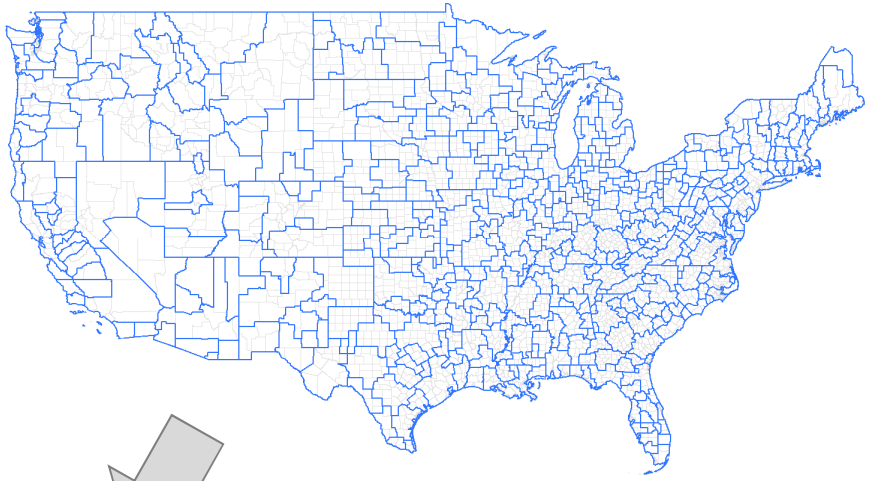
nextlink™

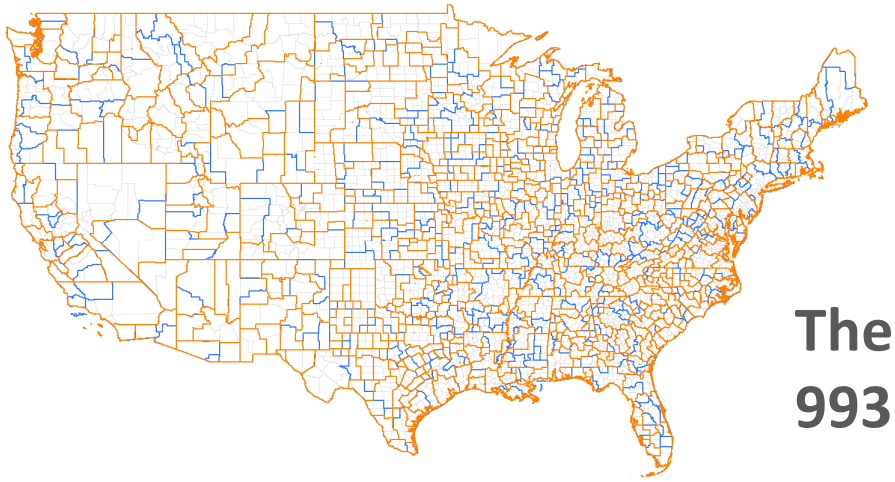
PEAs + BTAs

412* PEAs



489* BTAs

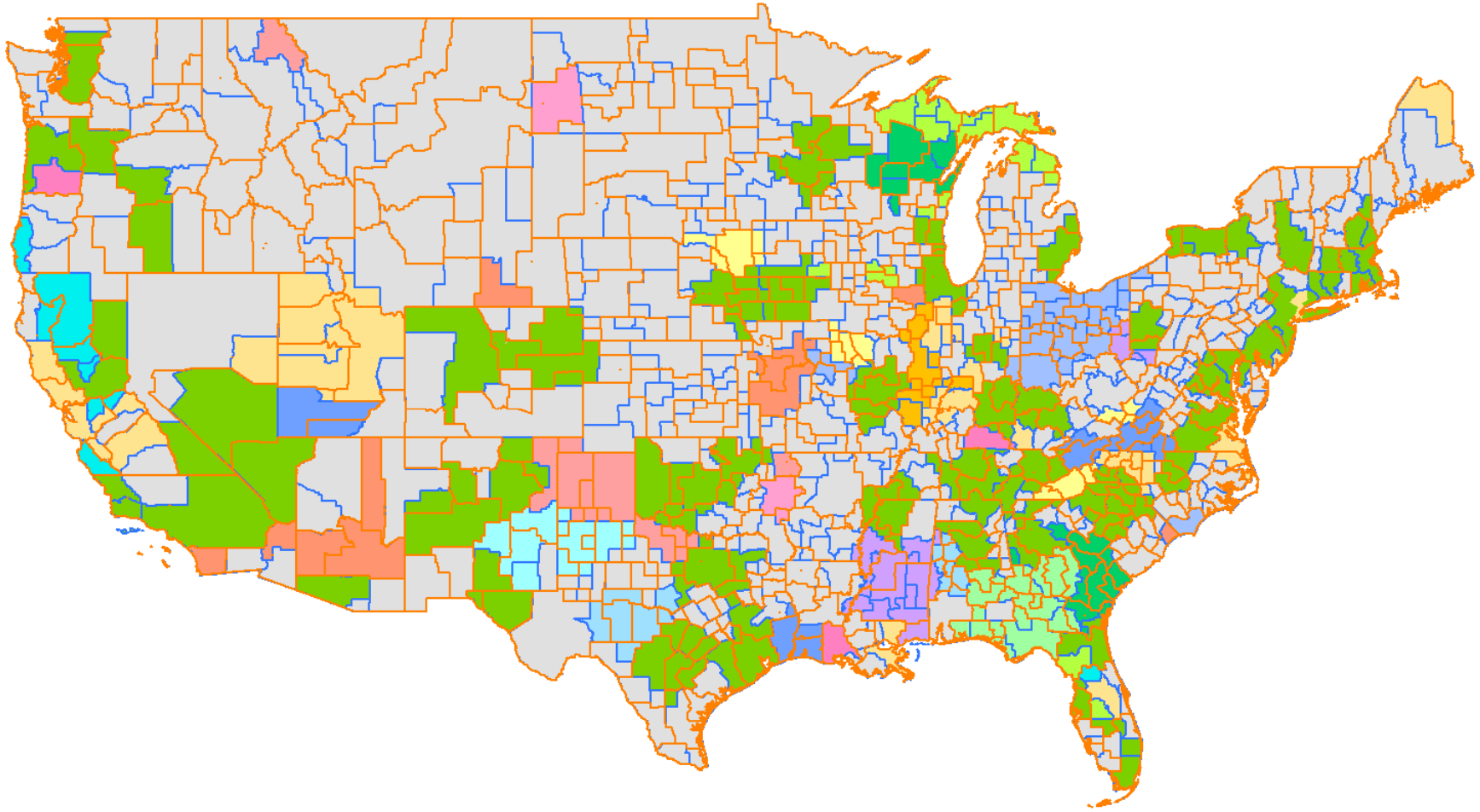




** Considers only PEAs and BTAs in the Continental US, AK, HI, and PR (only ConUS is shown)*

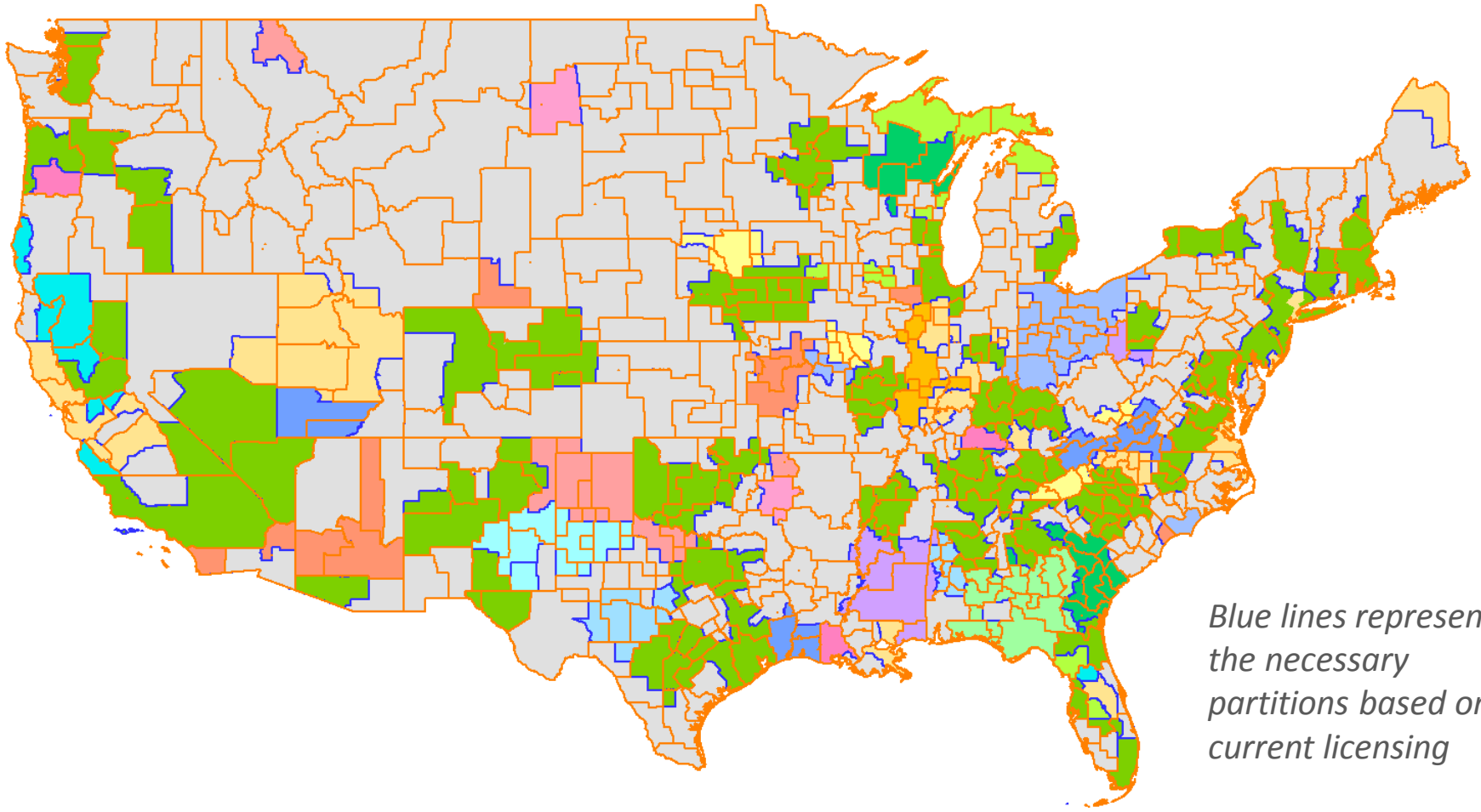
The union gives 993 discrete areas

PEAs + BTAs + LMDS A Block Licensees



Considering current licensees (colors) and FCC inventory (gray), many of the 993 areas can be grouped into whole and partitioned PEAS

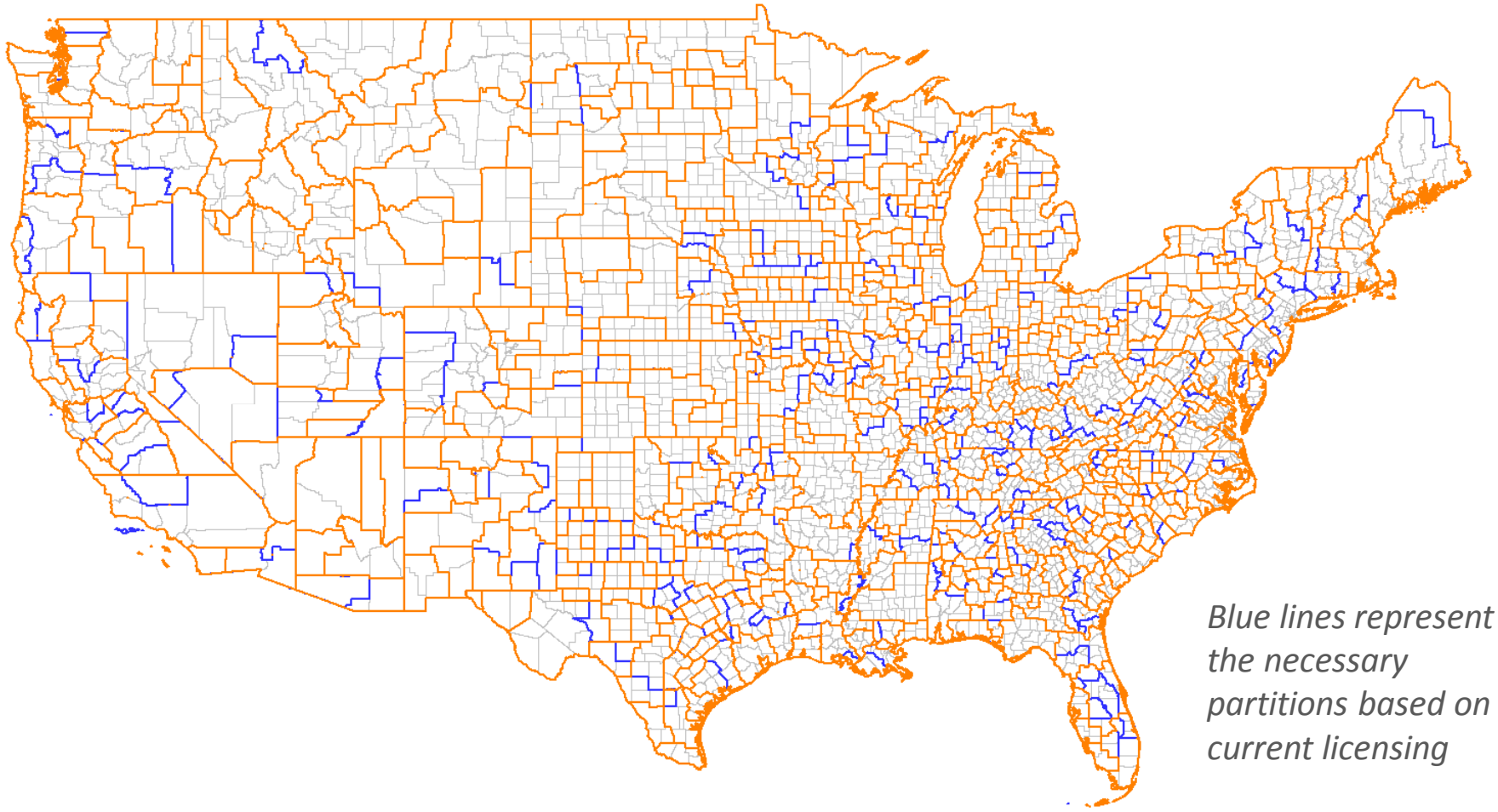
Partitioned PEAs



Blue lines represent the necessary partitions based on current licensing

This results in 651 discrete areas we call "Partitioned PEAs"

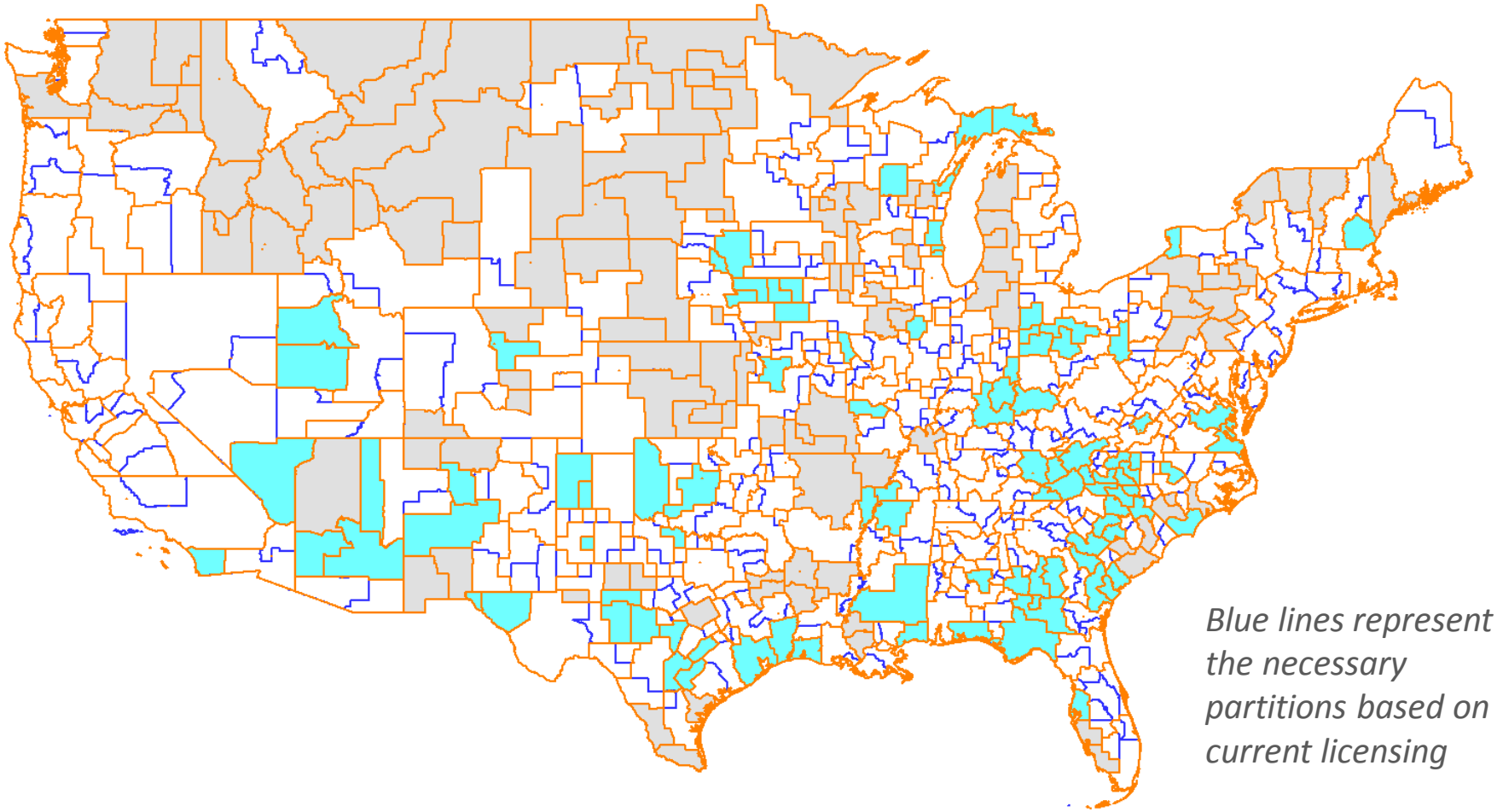
Counties are the Building Blocks



Blue lines represent the necessary partitions based on current licensing

And each county in the U.S. is easily mapped to a specific Partitioned PEA

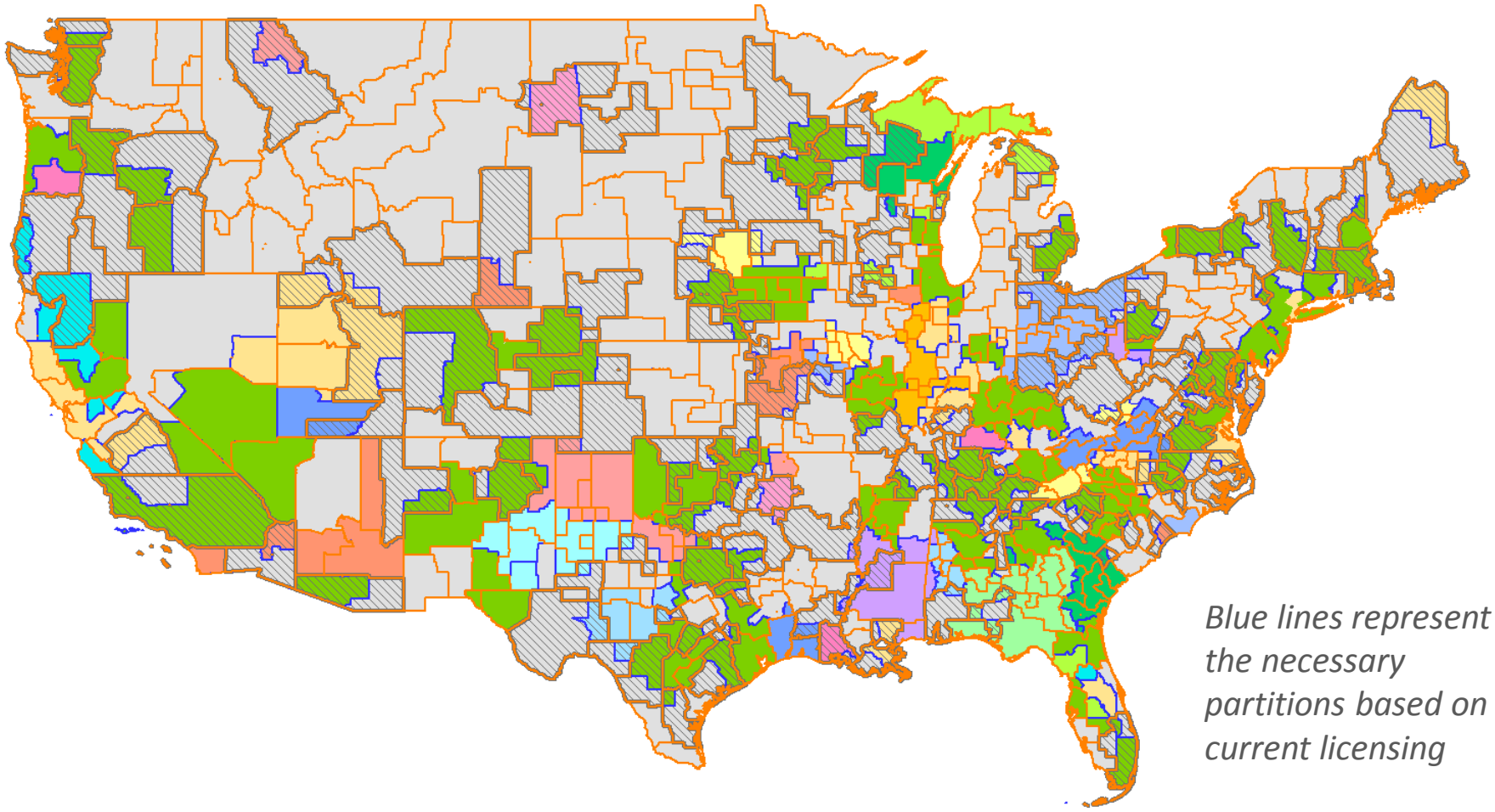
Most PEAs Remain "Intact"



Blue lines represent the necessary partitions based on current licensing

Based on current licensing, 225 of 412 PEAs remain "whole" PEAs – 100 that are licensed (blue) and 125 that are FCC-held (gray)

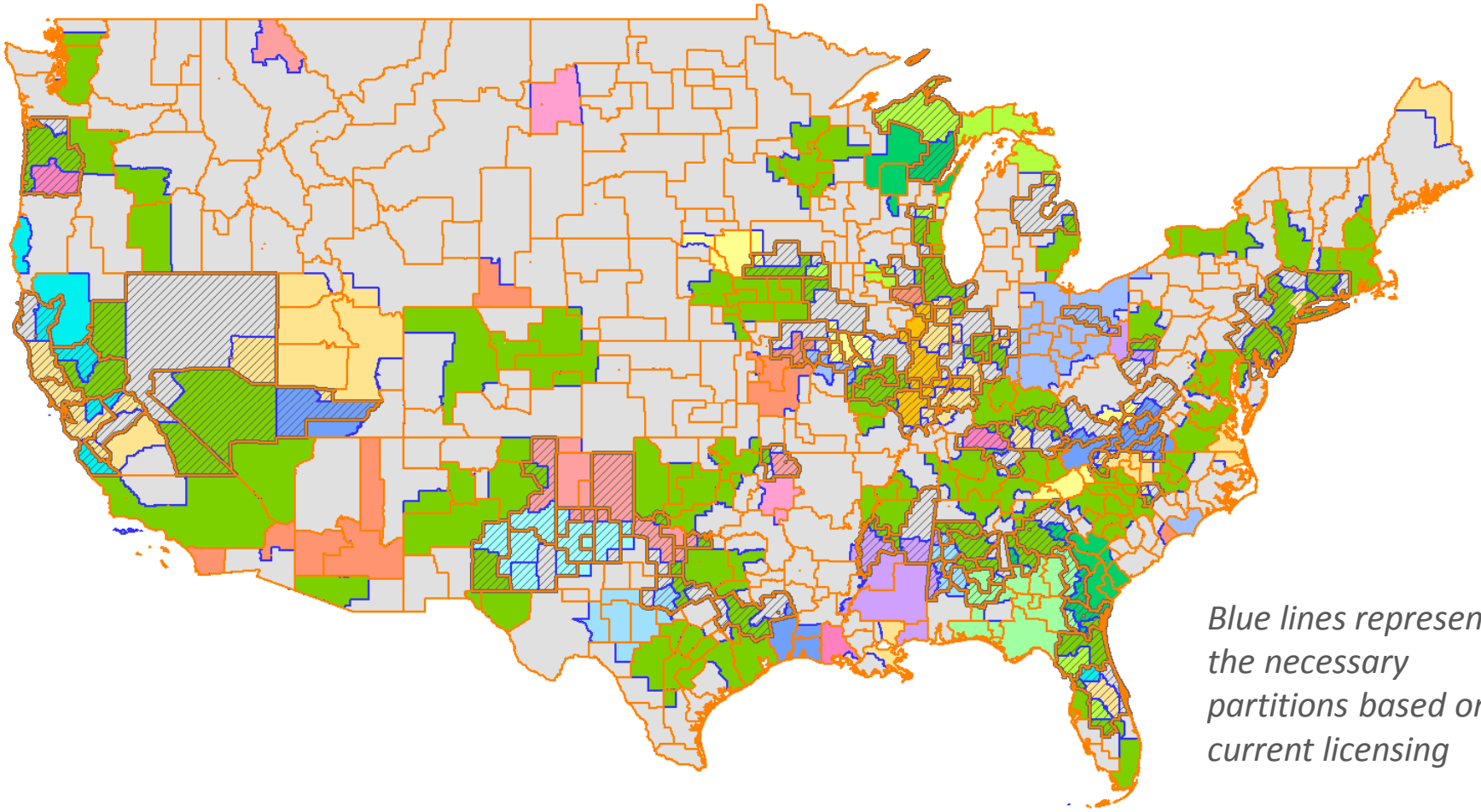
Many More PEAs Can Become "Whole" Through the Auction Process



Blue lines represent the necessary partitions based on current licensing

Incumbent licensees have the opportunity to complete 118 more PEAs at auction where the FCC is the only other holder (PEAs with hash marks)

Only a Few PEAs Need to Remain Partitioned



Blue lines represent the necessary partitions based on current licensing

If the auction completes all 118 PEAs, then only 69 would remain partitioned due to multiple licensees (PEAs with hash marks)

License Areas Under PEA Conversion Plan